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Consumer Sentiment and the Economic Downturn

From August through October 1990, the University of Michigan's survey of consumer sentiment recorded the biggest decline in any three-month period in its 44-year history; and it has stayed low since then. A similar index constructed by the Conference Board began to decline in April and has dropped even more. Analysts have used these indexes to forecast future consumer expenditures, to forecast the future of the economy as a whole, and to understand the motives and attitudes underlying consumer behavior. Indeed, the large drop in these indexes accurately forecast the current consumer-led downturn.

This *Weekly Letter* focuses on the usefulness of the sentiment indexes for forecasting consumer expenditures. It discusses the concepts that underlie the sentiment indexes and attempts to reconcile them with standard economic theory. A simple test of the indexes' ability to contribute to forecasts of consumer expenditures is then presented.

The psychological approach

Indexes of consumer sentiment are grounded in the discipline of psychological economics. Standard economic theory assumes that households will react the same way to economic stimuli at different points in time; psychological economics attempts to establish relationships between specific conditions and specific forms of behavior at specific times. For example, sometimes inflation may cause households to speed up their spending, while at others inflation may depress spending.

Psychological economics may be especially useful in explaining and predicting expenditures on consumer durables as well as other discretionary purchases, such as travel, recreation, and entertainment, which are neither habitual nor generally made on the spur of the moment. It suggests that consumer purchases of important durable items depend not only on consumers' ability to buy—represented in standard economic theory by income, assets, and availability of credit—but also on a willingness to buy—represented by favorable expectations and attitudes.

The index of consumer sentiment uses sample surveys to measure consumer willingness to buy. Respondents answer questions about their individual financial situations and their views of general business conditions. George Katona and his associates at the University of Michigan found that while no single survey question could provide a reliable indicator of subsequent purchases, a set of questions taken together could do so. Economists have tried to explain consumer sentiment by relating it to such things as oil prices, inflation, and unemployment. However, these relationships have not proved to be very stable.

The economic approach

The life-cycle hypothesis is a widely accepted economic theory used to predict consumption. According to this theory, households consciously attempt to achieve a preferred distribution of consumption over their lifetimes, subject to the amount of resources they expect to have. These resources consist of total expected future labor incomes plus current net worth. This theory subsumes a concept like "consumer willingness to buy" in the notion of "tastes" which are assumed to be relatively constant.

Expectations about future labor incomes are usually assumed to be formed "adaptively" on the basis of recent experience. In other words, expectations of income are measured by an average of current and past incomes. As far as net worth is concerned, although stock market wealth can be measured at its current market value, it is more difficult to measure the current value of other forms of wealth, such as owner-occupied housing.

The life-cycle model makes an important distinction between *consumption* and *consumption expenditures*. Total consumption refers to the current flow of satisfaction from consumer

goods, including the existing stock of durables. This flow of satisfaction can be quantified as the rental value of the current stock of consumer durables plus current household expenditures on nondurables and services. In contrast, total consumption expenditures are simply the actual purchases of consumer durables plus nondurables and services during a specified period of time.

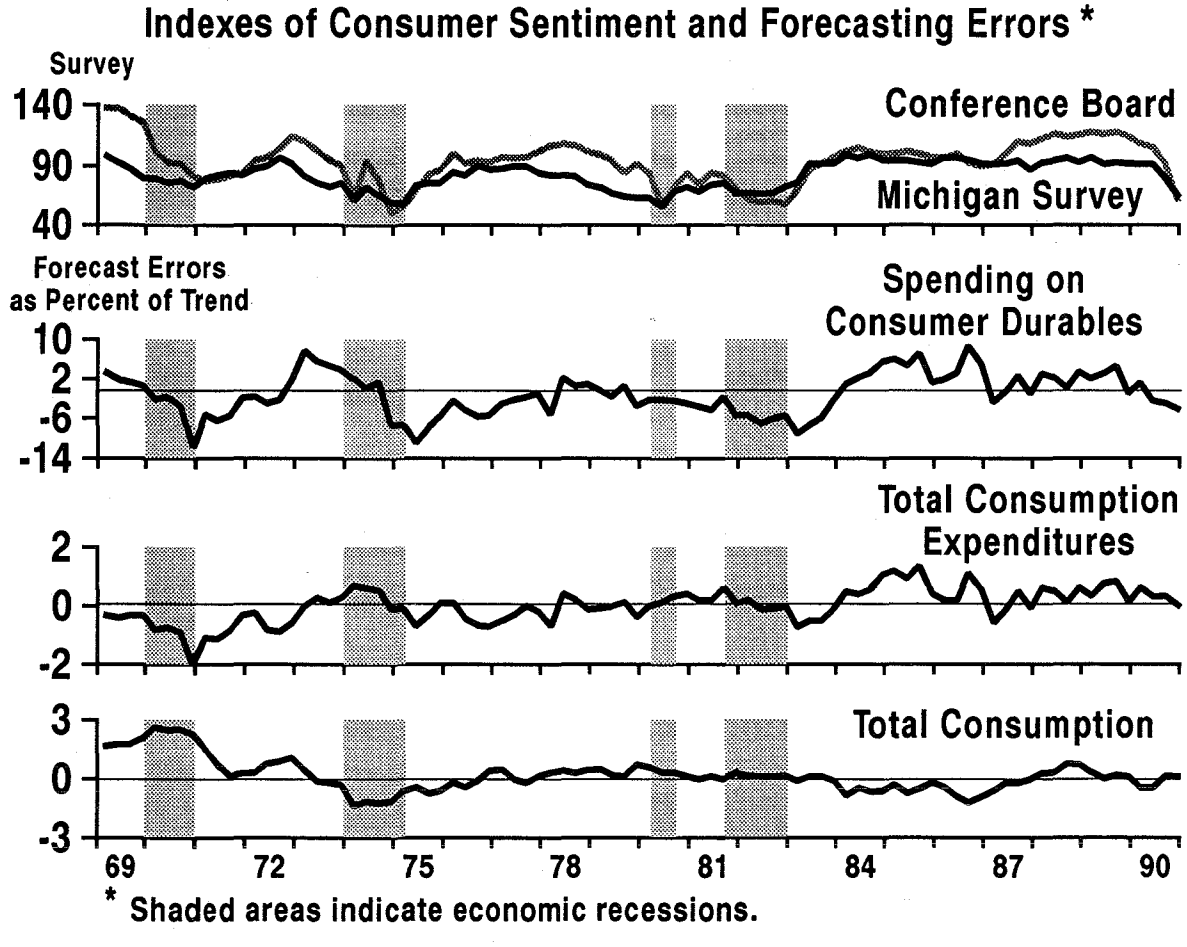
In this theory, the stock of durables that consumers demand depends upon total current consumption and the relative price of durables, which in turn depends on interest rates. When interest rates are high, the relative price of durables increases because of either higher borrowing costs or the larger amount of income that is forgone by purchasing durables. Actual purchases of consumer durables then result as households gradually adjust the actual stock of consumer durables to the stock demanded.

A reconciliation

One possible avenue for reconciling the life-cycle theory of consumption and psychological economics is that a household's perception of its total resources is partly psychological. Katona and his associates found that the households were not able to predict their incomes in the near future very well. Also, general attitudes about their financial well-being predicted their near-term expenditures on durables better than their expectations of future incomes did. Consumer attitudes thus appear to be of some importance.

If consumer sentiment matters, then it ought to help to explain a portion of consumer spending at any point in time that is not accounted for by the life-cycle model. More specifically, it ought to help to explain the life-cycle model's prediction errors.

The accompanying chart plots the two indexes of consumer sentiment in the upper panel, and the prediction errors (as a percent of trend) of the life-cycle model for expenditures on durables, expenditures on all consumption goods,



and total consumption in the lower panels. The prediction errors are measured as actual values less the values predicted by the life-cycle model. The chart shows, and statistical regression analysis confirms, that the errors in predicting spending on consumer durables and total *consumption expenditures* are significantly related to the sentiment indexes, both contemporaneously and up to three quarters later. But the error in predicting total *consumption* is not.

In the life-cycle model, total consumption depends upon perceived income and wealth. Since the sentiment indexes do not help to explain the life-cycle model's errors in predicting the level of total consumption, they appear to be something other than just a better reflection of perceived income and wealth. The important thing that they seem to measure is household perceptions of uncertainty, or confidence, and the corresponding probability of financial distress. If the probability of financial distress is high, households would prefer holding liquid financial assets and spending the income from them on nondurables and services rather than holding illiquid consumer durables. They would therefore allocate their consumption away from the satisfaction provided by illiquid consumer durables and towards nondurables and services. The life-cycle model does not capture this aspect of household behavior because it abstracts from uncertainty and risk.

Even though consumer sentiment does not affect the level of total consumption, the fact that it leads spending on consumer durables is useful not only for forecasting durables but also for forecasting GNP. The reason is that aggregate spending in the economy, and hence income and employment, depend upon total *consumption expenditures* rather than total *consumption*. As the chart shows, and statistical regression analysis confirms, the indexes of consumer sentiment also lead the life-cycle model's errors in predicting total consumption expenditures. As a result, an index of consumer sentiment can be used to improve the forecast of total consumption spending; and since consumption expenditures are about two-thirds of GNP, forecasts of GNP would be improved also.

The finding that consumer sentiment leads total consumption expenditures is consistent with our other findings. Suppose the average consumer is afflicted by a decline in confidence. As a result, he spends less on consumer durables, acquiring a smaller stock than he would have otherwise, and also getting proportionately less satisfaction from his stock of durables. Since the decline in confidence does not affect total consumption, then our consumer must increase his spending on nondurables and services. But the increased spending on nondurables and services isn't matched dollar for dollar with the lower spending on durables. Instead, the consumer increases his spending on nondurables and services by the amount of *satisfaction lost* due to his lower stock of durables. The value of the lost satisfaction from durables is only a fraction of the decline in expenditures on durables. (This fraction equals the gross rate of return on the stock of durables, or the depreciation rate plus a real rate of interest.) So the increase in spending on nondurables and services tends to be less than the decrease in expenditures on durables. As a result, the decline in consumer sentiment tends to lead to a decline in total consumption expenditures.

Conclusion

Swings in consumer sentiment produce lagged changes in consumer spending on durables that are not fully offset by opposite changes in spending on nondurables and services. As a result, consumer sentiment indexes are useful for forecasting total consumption expenditures and GNP. Although the Conference Board's index shows wider swings than the Michigan index, the estimated sensitivity of consumer spending to it is smaller, so that the predicted swings in consumer spending are similar for the two indexes. Sharp drops in the two indexes in the third quarter accurately forecast large declines in expenditures on consumer durables, and hence reductions in total consumption expenditures and GNP in the fourth quarter. Also, because of the lags involved, the indexes forecast further declines in consumer spending in the current quarter.

The evidence examined here suggests that consumer sentiment is more than just a better reflection of perceived income and wealth. Instead, it helps to measure household perceptions of uncertainty and the corresponding likelihood of financial distress, which affect the time patterns of consumer purchases of durables. Thus, the most important attitude being measured by the sentiment indexes appears to be confidence.

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